

### CLAIMS

The embodiment of the invention in which an exclusive property or privilege is claimed is defined as follows:

- 1           1.     A device to protect the neck and the base of the skull of a person, the  
2           device comprising:
  - 3           a)     a first impact-resistant pliable substrate whereby said substrate is adapted  
4           to encircle an extended portion of the person's neck and lower cranium;
  - 5           b)     straps extending from said substrate and comprising means allowing  
6           closure of the straps around a ventral region of the neck.
- 1           2.     The device as recited in claim 1 wherein the closure of the straps results  
2           in the juxtaposition of a rigid planar substrate overlying the person's trachea, wherein  
3           the planar substrate is attached to one of said straps.
- 1           3.     The device as recited in claim 1 further comprising a second substrate  
2           underlying the first substrate.
- 1           4.     The device as recited in claim 1 further comprising a means for reversibly  
2           attaching to a helmet.

1           5.     The device as recited in claim 1 wherein the device is integrally molded to  
2     a helmet.

1           6.     The device as recited in claim 3 whereby the second substrate is adapted  
2     to receive fluid.

1           7.     The device as recited in claim 3 wherein the second substrate comprises  
2     a plurality of reversibly deformable substrates.

1           8.     The device as recited in claim 3 wherein the first substrate, the second  
2     substrate, and the straps are radio-translucent.

1           9.     The device as recited in claim 2 wherein the substrate is defined by an  
2     arcuate outer shell overlaying a cushioning substrate.

1           10.    The device as recited in claim 1 wherein reversibly deformable material  
2     is integrally molded with said first substrate.

1           11.    The device as recited in claim 3 including a means for regulating fluid  
2     flow through the second substrate.

1           12.    The device as recited in claim 3 wherein the first substrate and the  
2     second substrate are integrally molded to each other.

1           13.    The device as recited in claim 3 wherein the second substrate is adapted  
2     to removably receive a hot-pack or a cold-pack.

1           14.    The device as recited in claim 1 wherein said first substrate extends to a  
2     region below the person's seventh vertebra.

1           15.    The device as recited in claim 1 wherein the first substrate is adapted to  
2   reversibly receive a hot-pack or a cold-pack.

1           16.    A device for imparting physical protection and predetermined temperature  
2   to the human neck, the device comprising:

- 3           a)     a first substrate extending along the vertebra column of the region;  
4           b)     a second substrate integrally molded to the first substrate and extending  
5   along lateral portions of the neck; and  
6           c)     a means for positioning cold packs or hot packs within the device so as to  
7   effect the temperature of the neck.

1           17.    The device as recited in claim 16 wherein the first substrate is more rigid  
2   than the second substrate.

1           18.    The device as recited in claim 16 wherein the positioning means is a  
2   cavity defined by a portion of the second substrate, wherein the cavity is adapted to  
3   receive the cold packs or hot packs.

1           19.    The device as recited in claim 16 wherein the second substrate further  
2   comprises a plurality of straps, each of said straps terminating with complementary  
3   closure means and each of said straps having a length sufficient to encircle the front of  
4   the neck so as to facilitate engagement the closure means.

1           20.    The device as recited in claim 19 further comprising a third substrate  
2   attached to one of said straps such that when the straps encircle the neck, the third  
3   substrate directly overlays a tracheal region of the neck.